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THE CONVENTIONAL MILITARY BALANCE IN EUROPE

by Roger Hill



INTRODUCTION

In the last two years, the world seems to have crossed a divide into a more optimistic state. At the Reykjavik Summit on 11 and 12 October 1986, President Reagan and General Secretary Gorbachev unveiled new vistas for cuts in nuclear armaments, and paved the way for the agreement on the elimination of intermediate-range nuclear weapons signed in Washington on 8 December 1987. They also gave an impetus to the efforts to establish a new treaty on long-range, strategic nuclear weapons, which could, before long, require fifty percent cuts by the two superpowers. Other agreements on such issues as the reduction and control of battlefield nuclear weapons and chemical weapons could also follow in the next few years if East-West relations continue to improve and the momentum of the disarmament effort is kept up.

That is why there is a new interest in the conventional military balance in Europe. The two sides will have to rely more heavily on their conventional forces if they are to give up more and more of their nuclear weapons; and they will want to be sure that those conventional forces are strong enough to deter aggression or to defeat an enemy if an attack does come. Many West Europeans, for example, believe that there should be no reductions in NATO's battlefield nuclear weapons until they can be assured that a satisfactory conventional balance exists.

This immediately raises the problem of deciding what is an adequate conventional balance. Some people believe that NATO and the Warsaw Pact have already achieved balance at the conventional level, or at least that each side has enough conventional forces to deny the other the assurance of victory if it launched an attack. But others argue that their side is outnumbered in one way or another. Many in the West believe that the Warsaw Pact has a marked superiority in manpower, tanks, artillery and overall strength near the

front line in Germany, whereas Soviet and other Eastern spokesmen often claim that NATO has an advantage in such weapons as tactical aircraft.

The state of the conventional military balance in Europe is certainly a complex question. To tackle it seriously means deciding which areas of Europe to examine, which countries are involved, which of their military forces are relevant, what equipment and manpower they have, how good they are, and when they might be committed to action. Even then the results that emerge will be only a rough guide, not an indication of how a battle might actually develop if a war did break out. They will not measure such qualities as generalship or morale, which can often be decisive in wartime.

GEOGRAPHIC ZONES

The first point to decide is which part of Europe is most important when it comes to counting the balance of conventional military forces between East and West. Most assessments begin by examining the numbers of divisions confronting each other on the *Central Front*, that is to say the border area between East and West which runs for about 750 kilometres from the Baltic Sea down through the middle of Germany and then along the German-Czechoslovak frontier to Austria. The most powerful armies of NATO and the Warsaw Pact face each other across this border, and so a good deal of attention is paid to the numbers of troops, tanks, artillery and other equipment in this zone.

However, counting the front line forces is not enough. In a crisis or during wartime they would be reinforced by other NATO and Warsaw Pact forces from rear areas. These would be drawn first from the territories of the Federal Republic of Germany, the Netherlands, Belgium and Luxembourg on the Western side, and from those of the German Democratic Republic, Poland and Czechoslovakia on the Eastern side. This region is so important that it was

selected as the geographic zone for negotiations on Mutual and Balanced Force Reductions (MBFR) when these began between NATO and the Warsaw Pact in Vienna in 1973.

Sometimes the Central European zone is extended slightly by the addition of Denmark on the Western side and Hungary on the Eastern side. General Wojciech Jaruzelski, the Polish leader, proposed new talks on force reductions in May 1987 that would have added these two countries to those listed above.

The next waves of reinforcements would be drawn from countries a little further away from the Central Front. Most analysts believe that, to be realistic, studies of the conventional balance need to include not only the Central European zone but also parts of the Western Soviet Union plus comparable areas on the NATO side. Canada's recent White Paper on national defence, entitled *Challenge and Commitment*, includes, on p.21, a map depicting the European balance which shows the Western and North-western areas of the Soviet Union, and Denmark and Norway, in the same shading of colours. Other assessments compare the Western military districts of the Soviet Union on the Eastern side with the United Kingdom on the Western side. Possibly the best geographic zone to use for comparing the balance of conventional forces on the Central Front is this one: on the Western side include the Federal Republic of Germany, Belgium, the Netherlands, Luxembourg, the United Kingdom and France; on the Eastern side include the German Democratic Republic, Poland, Czechoslovakia and the Western parts of the Soviet Union. Spain and Portugal can also be added in on the Western side if it seems likely that they will send reinforcements to Germany in wartime.

Even with such a broadened area there is no nice, easy solution to the geographic issue. The Warsaw Pact has many divisions in Hungary, Romania, Bulgaria, the South-western parts of the Soviet Union and the Caucasus, while the NATO allies have forces in Turkey, Greece and Italy. This is generally seen as a separate balance, on the Southern Flank, but some of these forces might also be used on the Central Front in a war. For example, elements of the Soviet and Hungarian armies could attempt to drive up through Austria to join the battle in Southern Germany rather than turning South towards Italy or the Balkans.

There is also a sub-balance around Scandinavia, on the Northern Flank, where Norwegian, Danish and some other allied forces face Soviet divisions stationed between Leningrad and the Arctic Ocean. This would probably be a major scene of action in a war, because the Soviet Union's main naval base is in this area, at Murmansk, and the Northern Flank is very important for the control of shipping in the Atlantic.

A great deal of interest nowadays is focussed on an even wider area than Central Europe and the two

flanks, that is to say the whole of Europe "from the Atlantic to the Urals." New negotiations on conventional force reductions now being discussed between the NATO and Warsaw Pact countries in Vienna* will use this broad, continent-wide zone, including the whole Western part of the USSR as well as the territories of all the other Warsaw Pact states and all the European NATO allies. The European neutral and non-aligned states such as Switzerland, Sweden, Finland, Austria and Yugoslavia will probably not participate directly in these new talks, but their forces and territories will certainly be taken into account in calculations of the conventional balance.

Finally there is another question about the geographic area. What about Central Asia, Siberia and the other enormous territories of the Soviet Union east of the Urals, and what about Canada, the United States and the Atlantic Ocean? Should the territories and conventional military forces in those areas be included somehow? In fact the territories themselves will not be included in the geographic area of the new conventional force reductions negotiations; but the army divisions and transport capabilities of the two sides will certainly be taken carefully into account when trying to find a new balance. The defence of NATO in wartime is likely to depend heavily on massive reinforcements flown in or convoyed across the Atlantic from Canada and the United States, while Warsaw Pact forces might need a continual flow of supplies from Soviet Asia if a battle continued for some length of time. Both sides are fully aware of this question and will pay a great deal of attention to it in any discussions about the European balance.

TYPES OF FORCES

In discussions about the conventional military balance in Europe, the main focus is on army divisions, including their manpower, tanks, artillery, and all other weapons except nuclear ones. Some NATO armoured divisions have more than 300 main battle tanks, over 16,000 men, and an extensive range of light tanks, artillery pieces, bridging equipment, trucks, anti-tank missiles, and anti-aircraft missiles. Other NATO divisions are designated as mechanized, infantry or specialized divisions, and have various numbers of men and different ranges of equipment depending on the structure of each allied army. Warsaw Pact armies consist mainly of tank divisions and motor rifle

* The current discussions on this issue in Vienna are known as the Mandate Talks. They are intended as a prelude to full-scale negotiations on conventional force reductions and other aspects of conventional stability in Europe which would include all the NATO countries and all the Warsaw Pact states. Once these new negotiations get underway, for example in 1989, the talks on Mutual and Balanced Force Reductions (MBFR) will presumably be wound up or merged with the new process.

divisions, usually with 9,000 to 13,000 men and 200 to 300 main battle tanks as well as a range of other equipment.

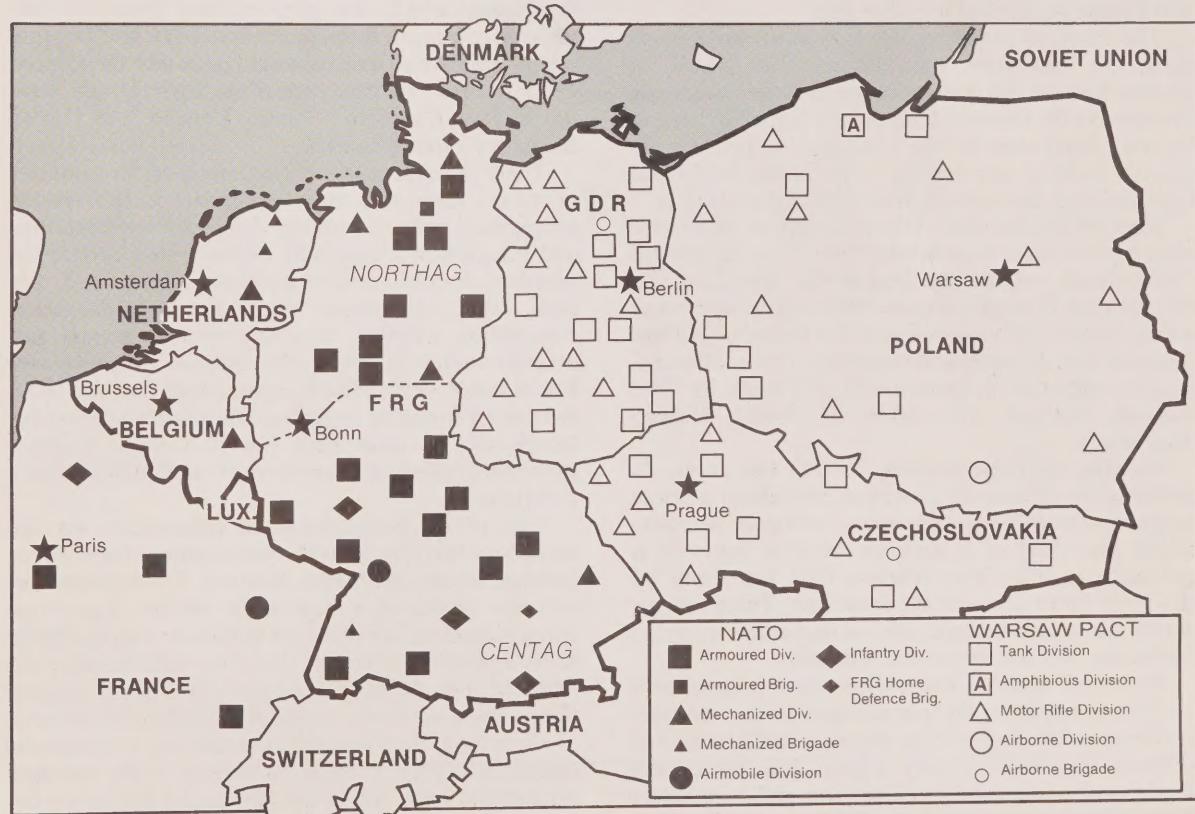
The variations among different types of army divisions causes difficulty in comparing the numbers on the two sides, so attempts are often made to assess the strengths of the armies in terms of a standard unit of measure. One counter is the Armoured Division Equivalent (ADE), which might include, say, 20,000 troops, 300 main battle tanks and a standard range of equipment. Since many of the troops in the NATO and Warsaw Pact armies are administrative and other personnel who serve in headquarters and supply units rather than front line divisions, the ADE includes not only combat and close-support troops but also a slice of other elements.

Aircraft are also considered to be conventional forces when they are not equipped with nuclear weapons. The MBFR negotiations in Vienna tried to set ceilings on air force manpower as part of the European military equation, and it is possible, though not yet certain, that tactical aviation will be included in the new negotiations. Attack and transport helicopters especially have a direct bearing on the balance of

conventional ground forces, since they are used primarily to support army operations.

Naval power is extremely important in calculations of the European military balance, because of the need to reinforce the Central Front from North America during any prolonged war in Europe. However, controls on NATO and Warsaw Pact fleets are not likely to be pursued as part of the negotiations on conventional force reductions in Europe. This is a problem with global rather than continental dimensions, which will have to be tackled in some other forum such as the United Nations or the Conference on Disarmament in Geneva.

Most of us think we know what we mean by the term conventional forces, but there are one or two problems when it comes to being precise about particular formations of weapons. For example, units armed with battlefield nuclear weapons are generally integrated with ordinary army divisions, not deployed separately, so one cannot say that one division is conventional and another nuclear. They are all considered conventional unless they resort to using the nuclear systems they hold. Many aircraft and artillery pieces are dual-capable, which means they can be



Map of Central Europe showing deployment of forces for the Warsaw Pact and NATO. The heavy line indicates the MBFR reduction zone. (Redrawn from *The Economist*, 30 August 1986, p. 7.)

armed with nuclear devices or conventional ones. Chemical weapons also present some difficulties, since they are more like mass-destruction nuclear systems, than conventional weapons, in their effects. These complexities cause problems in calculating the military balance and in working out reductions.

LET'S LOOK AT SOME FIGURES

The front line

There is a good description of the state of NATO armies on and near the front line in *The Economist*, 30 August 1986, in a special survey entitled "NATO'S Central Front." Pages 4 and 7 contain maps showing that we need to count not only these troops and weapons right on the front line, but also those a little further back in the various sectors assigned to the allied national armies. NATO has divided the front up into Dutch, German, British, Belgian, and American sectors, organized mainly in two large formations: Northern Army Group (NORTHAG); and Central Army Group (CENTAG). The Canadian mechanized brigade group and many other allied forces are not in these forward sectors, but in rear areas starting about 160 kilometres behind the front line.

The maps on page 7 of this *Economist* survey also show the deployment of Warsaw Pact armies in Central Europe. All the Soviet and East German ready divisions in the German Democratic Republic have to be considered close to the front line — because the country is small and narrow — as do the Soviet and Czechoslovak divisions in Western Czechoslovakia.

Another helpful map of the deployment on the two sides is provided in an article by Peter Almond, entitled "Soviet tank outguns the best in the West," in *The Washington Times*, 6 January 1988. If you want to go a little further and look at lists of the main NATO and Warsaw Pact divisions and brigades in Central Europe, a good reference is Appendix H of a book by Tom Gervasi, entitled *The Myth of Soviet Military Supremacy*.

Judging by these sources, NATO has about 21 divisions on or near the front line plus about a dozen specialized brigades or regiments — a brigade is usually about one third of a division while a regiment is generally smaller. The Warsaw Pact has about 34 divisions on or close to the front line. These are the forces that would be ready almost immediately, on the battle line, if a war broke out suddenly.

However, these figures are not much help when it comes to comparing the true strengths of the two sides on the front line, because, as already noted, the sizes of different divisions can vary a great deal. Manpower levels and equipment holdings can differ radically depending on the tasks of the divisions, their location on the line and so on.

When the above figures are converted to Armoured

Division Equivalents (ADEs) like the one mentioned earlier, we arrive at figures along these lines: the Warsaw Pact has about 30 ADEs — 24 Soviet and 6 other East European — close to the front line, with a total of about 9,000 main battle tanks; NATO has about 20 ADEs with almost 6,000 main battle tanks. Each side also has a range of other equipment including attack helicopters, artillery pieces, bridging systems, armoured fighting vehicles, anti-tank weapons and surface-to-air missiles.

Wider geographic zones

In most circumstances, a war between NATO and the Warsaw Pact starting on the Central Front in Europe would rapidly draw in forces other than those already on the front line. Warsaw Pact divisions in Poland and Eastern Czechoslovakia would be pushed forward, while NATO rushed to bring up its own divisions stationed in the rear parts of Germany or in the Netherlands, Belgium and Luxembourg. Reserves would also be called out to man territorial army or similar formations, and American and British troops would be flown in to Germany to man tanks and other equipment which are prepositioned there. As the fighting continued through the first week and beyond, additional reinforcements would pour into the Central Front from the Western parts of the Soviet Union, from the United Kingdom, France, Canada, the United States and other countries.

There are many different estimates of the numbers of troops, tanks and other equipment in the various geographic areas. Counting divisional organizations and manpower is especially difficult since it depends whether we count reserve divisions as equal to active ones, what assessments we make of mobilization capabilities, whether we count frontier guards and amphibious forces among the ground forces, and so on. For example, in the MBFR negotiations, East and West have never been able to agree on the numbers of ground troops the Warsaw Pact has in Central Europe: estimates of this figure vary from about 800,000 to over 1 million.

One of the best sources of information on the world's military forces is the International Institute for Strategic Studies in London, England. This organization recently produced a new table on the East-West conventional military balance in Europe which is likely to be a standard reference for those interested in the field. In *The Military Balance*, 1987-88, it set out figures showing forces in: the NATO Guidelines Area — the same as the Central European zone we discussed earlier; in Europe from the Atlantic to Urals; and then on a global basis. There are also useful figures on the balance of naval forces and naval air forces in European/Atlantic waters as well as globally. (See Table 1.)

Table 1
Conventional Force Data: NATO and Warsaw Pact

(N.B. This table presents aggregated data for a large number of national forces, divided on the basis of their geographical deployment. The level of confidence as to the many components varies; the aggregated figures therefore embody a measure of estimation).

	NATO Guidelines Area		Atlantic to Urals		Global	
	NATO ¹	WP	NATO ¹	WP	NATO ¹	WP
Manpower (000)						
Total active ground forces ²	796	995	2,385	2,292	2,992	2,829
Total ground force reserves ³	922	1,030	4,371	4,276	5,502	5,348
Divisions⁴						
Manned in peacetime ⁵	32½	48½	107½	101½	127½	131
Manned on mobilization of reserves ⁶	12	8	41?	100	72	137
Total, war mobilized ⁶	44½	56½	149	201½	199½	268
Ground Force Equipment⁷						
Main Battle Tanks	12,700	18,000	22,200	52,200	30,500	68,300
MICV	3,400	8,000	4,200	25,800	8,000	34,400
Artillery, MRL, ATK guns.	3,600	9,500	11,100	37,000	21,500	50,400
Mor (120mm and over)	1,200	2,200	2,600	9,500	2,600	13,600
ATGW: ground-based ⁸	6,500	4,500	10,100	16,600	18,500	23,600
ATGW: hel-borne	300	270	470	1,050	1,620	1,370
AA guns	3,100	3,400	7,400	12,000	8,400	15,100
SAM ⁹	1,350	2,200	2,250	12,850	3,000	16,150
Armed helicopters ¹⁰	550	430	780	1,630	2,020	2,130
Land Combat Aircraft¹¹						
Bombers ¹¹	72	225	285	450	518	1,182
Attack ¹¹	901	799	2,108	2,144	5,157	3,119
Interceptors/fighters ¹¹	304	1,020	899	4,930	1,763	5,265
	European/Atlantic waters			Global		
Naval Forces	NATO	WP		NATO	WP	
Submarines ¹²	196	231		238	301	
Carriers ¹³	24 (8)	4 (2)		37 (14)	6 (2)	
Cruisers	16	24		39	37	
Destroyers	124	50		167	64	
Frigates	196	50		272	75	
Corvettes	22	100		22	133	
FAC (G/T/P)	168	238		168	415	
MCMV ¹⁴	242	338		252	427	
Amphibious ¹⁵	200	100		250	123	
Naval Air¹¹						
Bombers ¹¹	38	250		38	390	
Attack ¹¹	379	177		621	235	
Interceptors/fighters ¹¹	180	12		264	12	
ASW fixed-wing ac	145	150		553	219	
ASW hel	390	224		626	335	

¹ French and Spanish forces are not part of NATO's integrated military command, but are included insofar as they are deployed in the relevant geographical area. French forces in West Germany

are included in the NGA column by virtue of their deployment, but are not subject to the MBFR negotiations.

² Ground Forces exclude paramilitary forces, border guards and

security forces. Warsaw Pact figures would be increased by some 500,000-700,000 (Atlantic to Urals) and some 800,000 to 1.5 million (Global) by the inclusion of an assumed ground force 'slice' of Soviet railroad, construction, labour, command and general support troops — all of which are uniformed, armed and have undergone at least basic military training. Reserves could arguably be increased in proportion.

³ Reserves do not generally include personnel beyond a five year post-service period, whether or not they are assigned to units.

⁴ Divisions are not a standard formation between armies, nor do divisions contain comparable numbers or types of equipment or personnel. For the purposes of this table, three brigades or regiments are considered to be a divisional equivalent.

⁵ 'Manned in peacetime' includes all Soviet and WP Category 2 divisions in the relevant geographical area.

⁶ Comprises only forces mobilized *within* relevant geographical areas. North American-based US and Canadian formations earmarked for reinforcement of Europe on or after mobilization are therefore shown under 'Global', rather than in the 'NGA' or 'Atlantic to Urals' columns.

⁷ Figures include equipment in storage or reserve where known.

⁸ ATGW proliferation presents particular difficulties for realistic counting rules. The figures shown are estimated aggregates of all dismounted ATGW and those vehicle-mounted weapons with a primary ATK role. Soviet Category 3 divisions are assumed to hold a reduced (50%) scale of dismounted weapons. Totals exclude ATGW on MICV (e.g. M-2/3 Bradley, BMP, BMD) or fired by main battle tank main armament (e.g. T-80) and do not, therefore, represent total available ATGW for either side.

⁹ SAM launchers exclude shoulder-launched weapons. They include Air Force and Air Defence Force weapons.

¹⁰ Comprises all helicopters whose primary function is close air support or anti-tank (i.e. *includes* hel-borne ATGW shown in earlier line).

¹¹ The categorization of aircraft between roles reflects that shown in the country entries, but the figures should be used with care. Many of the aircraft are multi-role; primary roles for similar aircraft vary between countries, and distinctions between attack and bomber and between fighter and fighter ground attack (FGA = attack) cannot be drawn with certainty. Moreover, training aircraft have been excluded, although they could provide some reinforcement or replacements in operations.

¹² Excludes SSB, SSBN, SSG, SSGN.

¹³ Figure in brackets is number of helicopter-only carriers included in total.

¹⁴ Includes inshore vessels; excludes minelayers and support craft.

¹⁵ Excludes LCU, LCVP, and LCA small craft.

Source: The International Institute for Strategic Studies, *The Military Balance*, 1987-88, pp. 231-2.

A different set of figures is given in the White Paper on defence, *Challenge and Commitment*, published by the Canadian government in the summer of 1987. The reason for this variation is that the authors used another geographic area and counted many Warsaw Pact divisions which are in low states of readiness.

Page 21 of the White Paper lists all the Warsaw Pact and NATO forces in Northern as well as Central Europe, including not only the Federal Republic of Germany, the Netherlands, Belgium, Luxembourg, the German Democratic Republic, Poland and Czechoslovakia, but also Denmark, Norway, and the Western and North-western Military Districts of the Soviet Union.

Table 2
NATO and Warsaw Pact Forces in Northern and Central Europe

	NATO	WARSAW PACT
Divisions	26	64
Manpower	840,000	1,700,000
Main Battle Tanks	14,000	29,000
Artillery	4,760	14,300
Armed Helicopters	540	1,690
Land Combat Aircraft	2,010	3,560

Source: The International Institute for Strategic Studies, *The Military Balance*, 1986-87.

Table 3
Conventional Forces in the NATO Area

	NATO ¹	WARSAW PACT	
Ground Forces	Divisions ²	38	90
	Manpower ³	1,900,000	2,700,000
	Main Battle Tanks	20,000	47,000
	Artillery ⁴	9,000	24,000
	Armed Helicopters	700	2,100
Naval Forces ⁵	Principal Surface Combatants ⁶	321	196
	Attack Submarines	173	192
Air Forces	Land Combat Aircraft ⁴	3,250	5,300

Source: The International Institute for Strategic Studies, *The Military Balance*, 1986-87. Numbers are rounded.

¹ Excludes France and Spain which do not participate in NATO's integrated military structure. (French army stationed in Federal Republic of Germany is included).

² While Warsaw Pact and NATO divisions differ, they have overall firepower equivalence. Only active divisions have been included.

³ Manpower figure is for total ground forces in Europe.

⁴ Many artillery pieces and aircraft are technically dual-capable, even though operationally they may not be assigned a nuclear role.

⁵ Includes NATO naval forces on both sides of the Atlantic.

⁶ Light frigates (1,000 tons) and larger ships.

However, the United Kingdom and France are excluded. With this geographic basis, the White Paper obtains the count given in Table 2.

The White Paper also provides, on page 12, figures on the balance of conventional forces in "the NATO area," that is, on the Western side, NATO Europe but not France or Spain; on the Eastern side, all Warsaw Pact countries. (See Table 3.)

Once again the source for these figures is *The Military Balance*, 1986-87. However that publication also includes numbers of reinforcement divisions — already manned, or likely to be manned by reservists in a crisis. When the active and reinforcement numbers

are added, the totals are as follows: NATO — 143; the Warsaw Pact — 181.

These totals are relatively close to the figures for the "Atlantic to the Urals" zone given in the first table of this paper. They are not exactly the same because the counting system has been changed. The first table includes more NATO forces, such as the French divisions stationed at home in France. The reinforcement divisions have also been divided into two groups, and those already manned have been included among the active divisions. This shows some of the complexity of counting military forces in a true and realistic fashion.

BEHIND THE FIGURES

The numbers tell only part of the story. They try to show the conventional military forces now in place in various parts of Europe or those that could be mobilized in a crisis and sent to the European theatre. They do not enable us to predict which of the two sides would have the most conventional forces available on this or that battlefield if fighting broke out next week or, say, in a year's time.

Trying to calculate the balance of conventional forces in possible future East-West conflicts in Europe depends as much on the assumptions we make about the geographic location of fighting, about political decision-making, about timing, about types of military action, and so on, as it does on sheer numbers. Military planners and arms control experts are well aware of this, and use a range of models to examine the situation, where they can change the assumptions and see what effects that will produce. In addition, they work out different scenarios about a conventional war in Europe, and use these to try to see which side might gain the advantage. A scenario is like a novel or the script of a play. It shows what could conceivably happen in a crisis or wartime, depending on the development of the situation.

There are several major questions that military planners have to face when they think about possible future conflicts. Firstly, how much warning would there be, and where would the war start? The crisis might develop on the Central Front, but equally it could start in the Caucasus, on the border between the Soviet Union and Turkey, or in the Balkans as a result of some upheaval in Yugoslavia or a conflict between Greece and Bulgaria. The first military moves in a war might take place in Scandinavia, with a Soviet attempt to seize North Norway, thus diverting NATO's attention to the complex sea-air-land military balance in the North. Or there could be a new crisis in Berlin, spreading civil unrest and upheavals in Eastern Europe, or a new war in the Middle East which somehow dragged in the NATO and Warsaw Pact powers. The range of possibilities is extensive and each would have its own special impact on the location of fighting in the

early stages of a conflict.

A second major question is who would join in the fighting when a battle actually started. Usually it is assumed that all the NATO countries and all the Warsaw Pact states would commit their armies to action as soon as a major war broke out, but sometimes doubts are expressed about this or that country. For example, in one recent, vivid novel about an East-West war, John Clancy's *Red Storm Rising* — an excellent example of a scenario — it is assumed that Greece would stay out of the war. Because France has publicly insisted on taking its own national decisions about declaring war in any future conflict, some analyses start from the assumption that France would not participate. Often questions are raised about the reliability of the Soviet Union's East European allies: would the Polish or Czechoslovak armies, for example, fight against NATO forces if the conflict had grown out of some massive domestic upheavals which had brought the near-collapse of authority, and civil war, to parts of Eastern Europe.

Additionally, it is not certain that a war between East and West in Europe, if it came, would necessarily be waged across the length and breadth of the continent. It might be waged within certain geographic bounds, for example on the Central Front or in the Balkans. Most allied countries would probably send some reinforcements, but the critical military balance would be that between the forces in, or committed to, that particular area. Alternatively, a war might escalate rapidly, before many conventional forces had been brought into action, as one side or the other resorted quickly to the use of nuclear weapons.

Another key question is how well the decision-making process would work among the allies on the two sides. The Western Alliance is a grouping of independent, democratic states, which do not always see eye to eye about the dangers which may be confronting them. Would the process of political consultation in NATO headquarters or among allied capitals work sufficiently quickly and surely to allow NATO commanders to respond effectively in a crisis? On the Eastern side, too, there might be hesitations or objections by various leaders which would have a major impact on the course of a war.

Differing views about the readiness of regular and reserve forces can also have substantial effects on assessments about the conventional military balance. For example, there are serious divergences among experts about the state of many Warsaw Pact divisions. These are normally divided into Categories I, II and III, by order of readiness, and a key question is how soon the Category III group, especially, could be brought up to full strength and made ready for battle. Some analysts think this could be done in two or three weeks, but others argue that it would normally take at least three months. Obviously this point is very important

when we try to think about the number of divisions the Warsaw Pact might have available to commit to battle in the critical first few weeks of a war.

Then there is the question of reinforcement. It would take time to move Soviet, French, British, American, Canadian or other forces up to the various fronts, especially if they were under attack by bombers, submarines, or other systems at the time. The Warsaw Pact has some advantage because its communication lines are almost all over land rather than partly across a wide and dangerous ocean, but even it faces problems because there are relatively few rail lines across the main supply routes such as through Poland. A critical issue here is how much time the Warsaw Pact would have to mobilize and reinforce the front line before NATO started to respond: if it had more than a week, it might gain a decisive edge which gave it good chances of a successful assault on NATO's front line.

The list of complexities does not end here. If a war really did start, the numbers of troops, tanks and other equipment on the various battlefields would not by any means be the only item that was important. In history, battles have often been won by the side which had the smaller forces. The advantages conferred by terrain, by military doctrine, by surprise, by fighting from well prepared defensive positions, by superiority in specific weapons systems such as tanks or tactical aircraft, by technology, and so on, need to be taken into account. The quality of the men and equipment on the two sides could be critically important, as well as such other unmeasurable factors as generalship, morale and plans of action. Added to them, moreover, are the inevitable hazards and uncertainties of war.

TACKLING THE CONVENTIONAL BALANCE ISSUE

Despite all the difficulties and complexities just mentioned, intensive efforts continue on both sides to improve the strength of their conventional military forces. At the very least, they want to be sure of having enough trained manpower, modern tanks, powerful artillery and other equipment to withstand an assault if it comes.

At the same time, in the aftermath of the Reykjavik and Washington Summit meetings, as the world looks with increasing hope to the prospects for far-reaching measures of arms control and disarmament, interest in the military balance in Europe is more and more focussed on the issue of conventional force reductions. East and West are working actively on this question in the Mandate Talks in Vienna. The great quest now will be to find ways of maintaining the balance of forces between the two sides at lower levels of military confrontation, and to make sure that sound measures are worked out which allow a conventional force reductions agreement to be put safely in place.

FURTHER READING

- Almond, Peter, "Soviet tank outguns the best in the West," *The Washington Times*, 6 January 1988.
- Clancy, John, *Red Storm Rising*, Putnam, New York, 1986.
- Gervasi, Tom, *The Myth of Soviet Military Supremacy*, Harper and Row, New York, 1986.
- Hill, Roger, "Are Major Conventional Force Reductions in Europe possible?" *Aurora Papers* 7, The Canadian Centre for Arms Control and Disarmament, Ottawa, May 1988.
- Keliher, John G., *The Negotiations on Mutual and Balanced Force Reductions: the Search for Arms Control in Central Europe*, Pergamon Press, New York, 1980.
- Klein, Jean, *Sécurité et désarmement en Europe*, Institut français des relations internationales, Paris, 1987.
- Levin, Carl, *Beyond the Bean Count: Realistically Assessing the Conventional Military Balance in Europe*, Office of Senator Carl Levin, Washington, DC, 20 January 1988.
- Mearsheimer, John J., *Conventional Deterrence*, Cornell University Press, Ithaca and London, 1983, especially Chapter 6, "The Prospect of Conventional Deterrence in Central Europe," pp. 165-189.
- Thompson, John, "The Soviet Ground Forces Today and into the Nineties," *Canadian Defence Quarterly*, Summer 1987, pp. 21-26.
- Toogood, John, "Conventional Arms Control in Europe," *Background Paper* No. 5, Canadian Institute for International Peace and Security, April 1986.
- Wander, W. Thomas (ed.), *1987 Colloquium Reader, Nuclear and Conventional Forces in Europe—Implications for Arms Control and Disarmament*, Program on Science, Arms Control and National Security of the American Association for the Advancement of Science. See the following chapters especially: Stephen D. Biddle, "The European Conventional Balance Debate: A Reinterpretation," pp. 25-57; Fen Osler Hampson, "Emerging Technology Conventional Weapons: Technological Advances and Projected Roles," pp. 59-74; and Jonathan Dean, "Negotiating Measures on Conventional Forces: Reductions and Confidence-Building Measures," pp. 181-187.
- The Department of National Defence, *Challenge and Commitment: A Defence Policy for Canada*, Ottawa, June 1987.
- The International Institute for Strategic Studies, *The Military Balance, 1987-88*, London.
- "NATO's Central Front," *The Economist*, 30 August 1986.

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